



# OXYRASE

*Nature's Antioxidant® for Wine*



*Scan for more info*

## The Safe, Natural Alternative to Sulfites

Protect your wine from oxidation without compromising flavor or consumer health. Oxyrase is a natural enzyme that removes oxygen to ultra-low levels while being completely safe for winemakers and wine drinkers alike.

## Why Wine Oxidation Matters

Wine's delicate flavors are created during anaerobic fermentation—any oxygen exposure during pumping, bottling, or through faulty closures can irreversibly damage these flavors. **Once wine is oxidized, there is no way to reverse the damage.**

## The Problem with Sulfites

While sulfites have been the industry standard, they come with significant drawbacks:

### ⚠️ Health Risks

Forms sulfur dioxide—lethal at 100 ppm • Causes respiratory episodes • Triggers allergic reactions • No antidote exists

### ⚠️ Flavor Impact & Market Reach

Can alter delicate flavor profiles • Many consumers avoid wine due to sulfite content

**FDA Note:** Sulfites were banned on fresh produce in 1986 after 12 deaths.

# The Oxyrase Solution

Oxyrase is a natural enzyme found in all living things that use oxygen. Isolated from GRAS (Generally Regarded As Safe) microorganisms and provided as a sterile product free of bacteria.

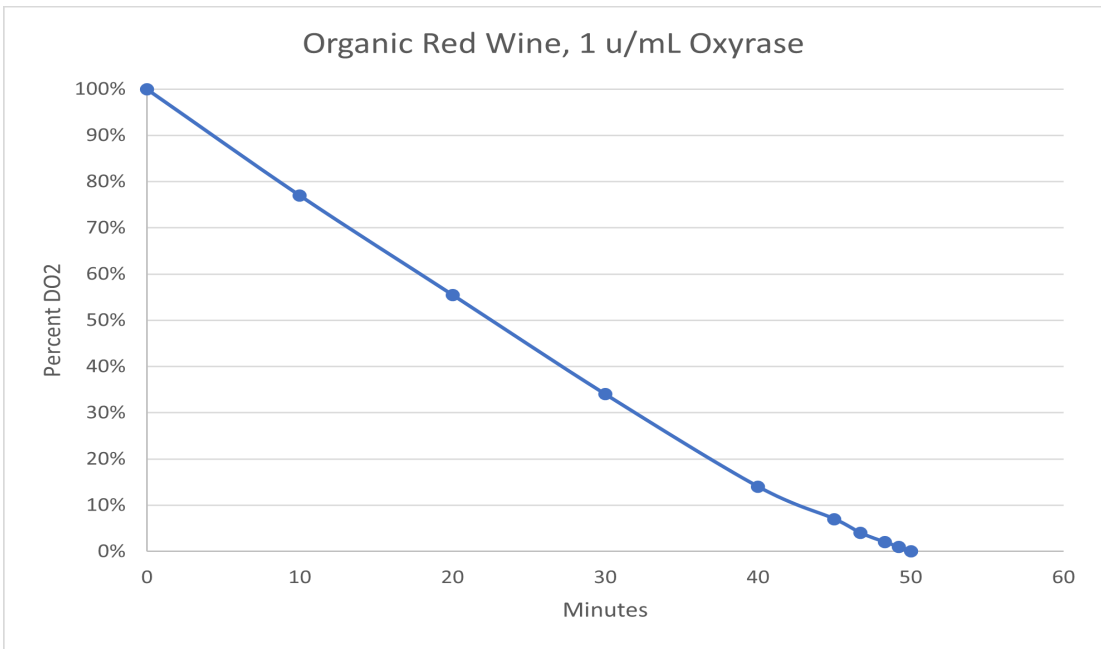
<div>✓ <b>Natural &amp; Safe</b></div> <div>Found in everyday foods—healthy and wholesome</div>	<div>✓ <b>Ultra-Low Oxygen Removal</b></div> <div>Reduces oxygen by 1,000× down to 8 ppB</div>
<div>✓ <b>Works in Wine Conditions</b></div> <div>Effective in anaerobic, high-alcohol, low-pH environments</div>	<div>✓ <b>Uses Natural Substrates</b></div> <div>Reduces oxygen to water using lactate and glucose</div>

## Proven Performance Data

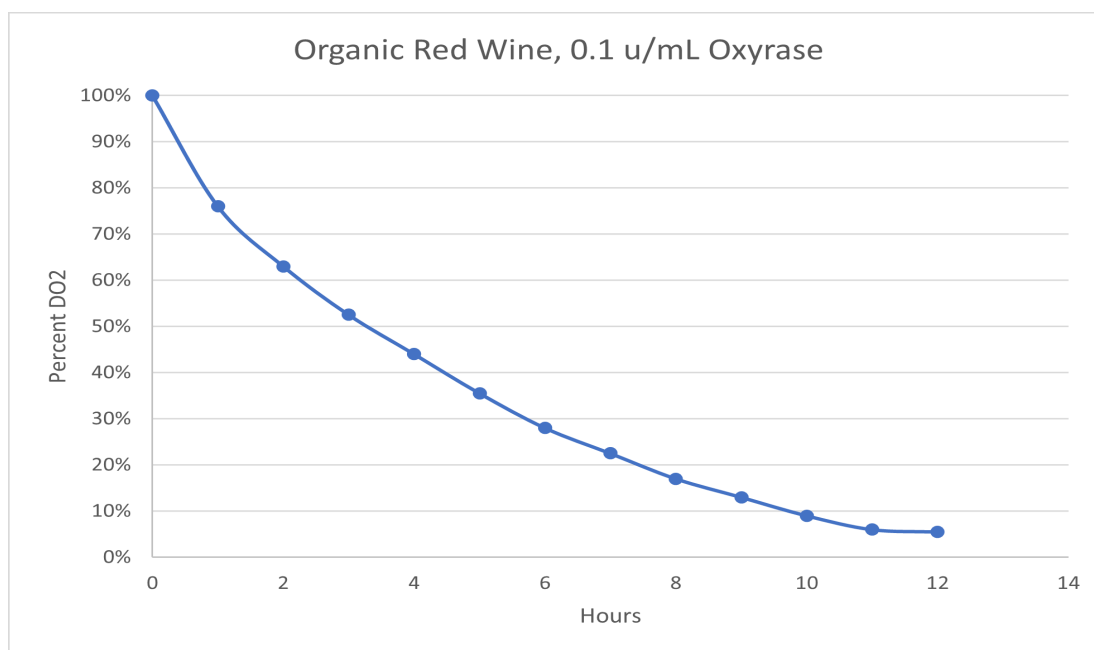
Testing in certified organic red wine demonstrates Oxyrase's effectiveness at 20°C:

Concentration	Time to Remove O <sub>2</sub>	Reduction Rate	Final O <sub>2</sub> Level
1 u/mL	~50 minutes	0.16 mg/L/min	~8 ppB
0.1 u/mL	~12 hours	0.01 mg/L/min	~40 ppB

## Oxygen Reduction Over Time



**Figure 1:** At 1 u/mL concentration, all dissolved oxygen is removed in approximately 50 minutes.



**Figure 2:** At 0.1 u/mL concentration, oxygen is reduced to ~40 ppB in 12 hours—demonstrating scalability.

**Note:** Wine was oxygenated to saturation (100% = 8 mg/L or 8 ppm) at 20°C. Performance can be enhanced by brief temperature elevation to 30°C.

## Protect Your Wine Naturally

You've invested in creating premium wine. Ensure that quality is preserved from fermentation to consumption. Leave sulfites behind and protect your wine safely with Oxyrase—Nature's Antioxidant.

### Wine Specialists

**Dr. Jim Copeland**

419-589-8800 Ext. 225

**Troy Menssen**

419-589-8800 Ext. 231

### Learn More

[www.oxyrase.com/oxyrase-and-wine](http://www.oxyrase.com/oxyrase-and-wine)

General Inquiries:

**(888) 699-3733**

[info@oxyrase.com](mailto:info@oxyrase.com)

## Experience the Difference

Request your FREE sample today and discover how Oxyrase can transform your winemaking process

*Contact us to request samples • Limited quantities available for qualified winemakers*